

CLAIMS

1. A method of preparing a palatability enhancer for an animal food, comprising the steps of:

5 (a) creating a liquified mixture comprising triglyceride molecules derived from at least one plant or animal source, mixed with at least one non-cellular donor compound which functions as an efficient donor of an element selected from the group consisting of sulfur and nitrogen; and,

10 (b) cooking the liquified mixture under a suitable combination of temperature, pressure, and time conditions to cause: (i) breakage of a substantial quantity of the triglyceride molecules, thereby creating smaller molecular fragments; and (ii) chemical bonding of sulfur or nitrogen
15 atoms to the smaller molecular fragments, in quantities sufficient to form a cooked product for use as a palatability enhancer for at least one type of animal food preparation.

20 2. The method of Claim 1, wherein at least some of the triglyceride molecules are derived from a plant source selected from the group consisting of corn, olives, peanuts, safflower oil, palm oil, rapeseed oil, soybean oil, cottonseed oil, coconut oil, and canola oil.

25 3. The method of Claim 1, wherein at least some of the triglyceride molecules are derived from an animal source selected from the group consisting of beef fat, pork fat, poultry fat, and fish oil.

30 4. The method of Claim 1, wherein at least one non-cellular donor compound is capable of donating sulfur atoms to hydrocarbon molecules and is selected from the group consisting of sulfide salts, sulfide liquors, elemental sulfur, amino acids that contain sulfur, short peptides that
35 contain sulfur, and manufacturing byproducts that contain at least about 1% sulfur by weight.

5. The method of Claim 1, wherein at least one non-cellular donor compound is capable of donating nitrogen atoms to hydrocarbon molecules and is selected from the group consisting of amino acids, nucleotides, urea, other molecules that contain amine groups, molecules that contain amide groups, molecules that contain guanidino groups, heterocyclic compounds that can readily release and donate nitrogen atoms under cooking conditions, and chemical manufacturing byproducts that contain at least about 5% nitrogen by weight.

6. The method of Claim 1, wherein the liquified mixture is cooked at a temperature in excess of about 110°C, in a vessel capable of sustaining elevated pressures during cooking.

7. A palatability enhancer for an animal food, comprising a cooked product created by the method of Claim 1.

8. A palatability enhancer for an animal food, comprising a mixture of (a) a first palatability enhancer ingredient, created by the method of Claim 1, and (b) at least one second palatability enhancer ingredient.

9. A palatability enhancer of Claim 8, wherein at least one second palatability enhancer ingredient is prepared by hydrolytic fermentation of at least one type of cohesive animal tissue.

10. An animal food product, comprising a dry or semi-dry animal food prepared by a method selected from the group consisting of pelleting, extruding, or molding, and which has on at least some of its surfaces a cooked product created by the method of Claim 1.

11. A method of preparing a palatability enhancer for an animal food, comprising the steps of:

(a) creating a liquified mixture containing triglyceride molecules derived from at least one plant or animal source, and at least one substance which contains microbial cells or fragments thereof and which functions as a donor of sulfur atoms and nitrogen atoms under cooking conditions; and,

(b) cooking the liquified mixture under a suitable combination of temperature, pressure, and time conditions to cause: (i) breakage of a substantial quantity of the triglyceride molecules into smaller molecular fragments; and (ii) chemical bonding of sulfur and nitrogen atoms to the smaller molecular fragments in quantities sufficient to form a cooked product for use as a palatability enhancer for at least one type of animal food preparation.

12. The method of Claim 11, wherein at least some of the triglyceride molecules are derived from a plant source selected from the group consisting of corn, olives, peanuts, safflower oil, palm oil, rapeseed oil, soybean oil, cottonseed oil, coconut oil, and canola oil.

13. The method of Claim 11, wherein at least some of the triglyceride molecules are derived from an animal source selected from the group consisting of beef fat, pork fat, poultry fat, and fish oil.

14. The method of Claim 11, wherein the microbial cells are selected from the group consisting of yeast, bacteria, and other microbes which contain at least about 10% nitrogen as a portion of their dry weight.

15. The method of Claim 11, wherein the microbial cells were previously used in a manufacturing operation involving sulfur.

16. The method of Claim 11, wherein the liquified mixture is cooked at a temperature in excess of about 110°C, in a

vessel capable of sustaining elevated pressures during cooking.

17. A palatability enhancer for an animal food,
5 comprising a cooked product created by the method of Claim 11.

18. A palatability enhancer for an animal food,
comprising a mixture of (a) a first palatability enhancer
ingredient, created by the method of Claim 11, and (b) at
10 least one second palatability enhancer ingredient.

19. A palatability enhancer of Claim 18, wherein at least
one second palatability enhancer ingredient is prepared by
hydrolytic fermentation of at least one type of cohesive
15 animal tissue.

20. An animal food product, comprising a dry or semi-dry
animal food prepared by a method selected from the group
consisting of pelleting, extruding, or molding, and which has
20 on at least some of its surfaces a cooked product created by
the method of Claim 11.

21. A palatability enhancer for an animal food,
comprising a cooked product prepared by steps which include:

25 (a) creating a liquified mixture comprising triglyceride
molecules derived from at least one plant or animal source,
mixed with at least one non-cellular donor compound which
functions as an efficient donor of an element selected from
the group consisting of sulfur and nitrogen; and,

30 (b) cooking the liquified mixture under a suitable
combination of temperature, pressure, and time conditions to
cause: (i) breakage of a substantial quantity of the
triglyceride molecules, thereby creating smaller molecular
fragments; and (ii) chemical bonding of sulfur or nitrogen
35 atoms to the smaller molecular fragments in quantities
sufficient to form a cooked product which is effective as a

palatability enhancer for at least one type of animal food preparation,

wherein the cooked product is created in a sufficient volume for a commercial manufacturing operation, and is
5 subsequently coated onto or added to at least one type of animal food.

22. A palatability enhancer for an animal food,
comprising a mixture of (a) the cooked product of Claim 22,
10 and (b) at least one second palatability enhancer ingredient.

23. An animal food product, comprising a dry or semi-dry animal food prepared by a method selected from the group consisting of pelleting, extruding, or molding, and which has
15 on at least some of its surfaces the palatability enhancer of Claim 21.